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CLAIMS:

1.   An overlay detection unit (300, 301) for detecting whether a particular pixel of
a first image of a display sequence of video images represents a part of a graphics overlay
which is merged with an input sequence of video images to create the display sequence of
video images, the overlay detection unit (300, 301) comprising:

5   -   first testing means (302) for testing whether a first difference (D11) between a
first value of the particular pixel (P(1,n)) and a second value of a corresponding pixel (P(1,n-
1)) of a second image of the display sequence of video images is less than a first
predetermined threshold (T1);

-           second testing means (304) for testing whether a second difference (D22)

10   between a third value of a second pixel (P(2,n)), being located in a spatial neighborhood of
the particular pixel (P(1,n)), and a fourth value of a fourth pixel (P(2,n-1)) of the second
image of the display sequence of video images, corresponding to the second pixel (P(2,n)), is
less than a second predetermined threshold (T2);

-           third testing means (306) for testing whether a third difference (D12) between

15   the first value of the particular pixel (P(1,n)) and the third value of the second pixel (P(2,n))
is less than a third predetermined threshold (T3); and

-           establishing means (308) for establishing that the particular pixel represents
the part of the graphics overlay if the first difference (D11) is less than the first
predetermined threshold (T1), the second difference (D22) is less than the second

20   predetermined threshold (T2) and the third difference (D12) is less than the third
predetermined threshold (T3).

2.   An overlay detection unit (301) as claimed in claim 1, further comprising
fourth testing means for testing whether the particular pixel belongs to a group of pixels for

25   which a first motion vector has been estimated which is equal to a null motion vector.

3.   An overlay detection unit (301) as claimed in claim 1, being arranged to test
whether a fourth difference (D11p) between the first value of the particular pixel (P(1,n)) and

a fourth value of a corresponding pixel (P(1,n+1)) of a third image of the display sequence of video images is less than the first predetermined threshold (T1).

4.   An overlay detection unit (300, 301) as claimed in claim 1, being arranged to test whether a fifth difference (D13) between the first value of the particular pixel (P(1,n)) and a fourth value of a third pixel (P(3,n)), being located in the spatial neighborhood of the particular pixel (P(1,n)) is less than the third predetermined threshold (T3).

5.   An overlay detection unit (300, 301) as claimed in claim 4, being arranged to test whether the particular pixel (P(1,n)), the second pixel (P(2,n)) and the third pixel (P(3,n)) form a set of mutually connected pixels.

6.   An overlay detection unit (301) as claimed in claim 1, wherein for the second pixel (P(2,n)) has been established that it represents a further part of the graphics overlay.

7.   An image processing apparatus (400) comprising:
-          receiving means (402) for receiving a signal corresponding to a display sequence of video images;
-          an overlay detection unit (408) for detecting whether a particular pixel of a first image of the display sequence of video images represents a part of a graphics overlay which is merged with an input sequence of video images to create the display sequence of video images; and
-          an image processing unit (404) for calculating a sequence of output images on basis of the display sequence of video images and on basis of a graphics overlay detection signal being provided by the overlay detection unit (408).

8.   An image processing apparatus (400) as claimed in claim 7, wherein the image processing unit (404) is a temporal up-conversion unit.

9.   An image processing apparatus (400) as claimed in claim 7, further comprising a display device (406) for displaying the output images.

10.   A method of detecting whether a particular pixel of a first image of a display sequence of video images represents a part of a graphics overlay which is merged with an

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input sequence of video images to create the display sequence of video images, the method comprising:

- testing whether a first difference (D11) between a first value of the particular pixel (P(1,n)) and a second value of a corresponding pixel (P(1,n-1)) of a second image of the

5   display sequence of video images is less than a first predetermined threshold (T1);

- testing whether a second difference (D22) between a third value of a second pixel (P(2,n)), being located in a spatial neighborhood of the particular pixel (P(1,n)), and a fourth value of a fourth pixel (P(2,n-1)) of the second image of the display sequence of video images, corresponding to the second pixel (P(2,n)), is less than a second predetermined

10   threshold (T2);

- testing whether a third difference (D12) between the first value of the particular pixel (P(1,n)) and the third value of the second pixel (P(2,n)) is less than a third predetermined threshold (T3); and

- establishing that the particular pixel represents the part of the graphics overlay

15   if the first difference (D11) is less than the first predetermined threshold (T1), the second difference (D22) is less than the second predetermined threshold (T2) and the third difference (D12) is less than the third predetermined threshold (T3).

11.   A computer program product to be loaded by a computer arrangement,

20   comprising instructions to detect whether a particular pixel of a first image of a display sequence of video images represents a part of a graphics overlay which is merged with an input sequence of video images to create the display sequence of video images, the computer arrangement comprising processing means and a memory, the computer program product, after being loaded, providing said processing means with the capability to carry out:

25   -   testing whether a first difference (D11) between a first value of the particular pixel (P(1,n)) and a second value of a corresponding pixel (P(1,n-1)) of a second image of the display sequence of video images is less than a first predetermined threshold (T1);

- testing whether a second difference (D22) between a third value of a second pixel (P(2,n)), being located in a spatial neighborhood of the particular pixel (P(1,n)), and a

30   fourth value of a fourth pixel (P(2,n-1)) of the second image of the display sequence of video images, corresponding to the second pixel (P(2,n)), is less than a second predetermined threshold (T2);

-         testing whether a third difference (D12) between the first value of the particular pixel (P(1,n)) and the third value of the second pixel (P(2,n)) is less than a third predetermined threshold (T3); and

-         establishing that the particular pixel represents the part of the graphics overlay

5   if the first difference (D11) is less than the first predetermined threshold (T1), the second difference (D22) is less than the second predetermined threshold (T2) and the third difference (D12) is less than the third predetermined threshold (T3).